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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,363	03/08/2002	David Coates	MERCK 2389	4623
23599	7590	09/30/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			CALEY, MICHAEL H	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/088,363

Applicant(s)

COATES ET AL.

Examiner

Michael H. Caley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 10, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al. (U.S. Patent No. 5,619,352 "Koch") in view of Clerc et al. (U.S. Patent No. 4,701,028 "Clerc").

Regarding claims 1 and 13, Koch discloses a liquid crystal display device having (Column 12 lines 3-5):

a liquid crystal cell formed by two transparent substrates (Figure 11 elements 340 and 345) having surfaces which oppose each other, an electrode layer (Figure 11 elements 325 and 330) provided on the inside of at least one of said two transparent substrates and optionally superposed with an alignment layer (Column 5 lines 26-37), and a liquid crystal medium which is present between the two transparent substrates (Figure 11 element 1110; Column 12 lines 3-5),

a polarizer arranged outside the transparent substrates, or a pair of polarizers sandwiching the substrates (Figure 11 elements 1105 and 1115), and

at least one optical compensator, comprising:

at least one O plate retarder,

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at least one film having the optical properties of a negative C plate (Column 7 lines 33-41) being situated between the liquid crystal cell and at least one of the polarizers, it being possible for the above elements to be separated, stacked, mounted on top of each other, coated on top of each other or connected by means of adhesive layers (Figure 11 element 1100; Column 12 lines 60-61, Column 9 Table 1).

Koch discloses all of the proposed limitations except for the film having the properties of a negative C plate as a diacetyl cellulose film. Koch, however, provides guidance for the construction of such a negative C-plate in Column 7 lines 33-41, "Negatively birefringent C-plates may be fabricated by the use of uniaxially compressed polymers (See, e.g., Clerc, U.S. Pat. No. 4,701,028)...". Clerc teaches such films as constructed from diacetyl cellulose (Column 6 lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the negative c-plate film disclosed by Koch from a diacetyl cellulose film as taught by Clerc. Koch provides direct guidance for construction of such a layer in reference to Clerc. Thus, one of ordinary skill would have been motivated to use the teachings of Koch and Clerc to construct the negative c-plate from a diacetyl cellulose film as proposed to benefit from the expected results of such a construction. For example, such a construction material would have been advantageous to realize the benefits as disclosed by Koch such as reduced leakage of the dark state (Column 5 lines 48-62) by using a preferred construction disclosed by Koch in reference to Clerc.

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Regarding claim 2, Koch discloses the average tilt angle of the O plate retarder as from 2 to 88 degrees (Column 12 lines 42-54).

Regarding claim 3, Koch discloses the tilt angle in the O-plate retarder as varying monotonously in a direction perpendicular to the plane of the film from a minimum value at one surface of the film to a maximum value at the opposite surface of the film (Column 10 line 67 – Column 11 line 8).

Regarding claim 4, Koch discloses the minimum value as from 0 to 80 degrees (Column 12 lines 45-49).

Regarding claim 5, Koch discloses the maximum tilt angle in the retarder as from 10 to 90 degrees (Column 12 lines 45-49).

Regarding claim 8, Koch fails to explicitly disclose the thickness of the C plate. Clerc, however, teaches an example thickness of a C plate as 200 microns (Column 6 lines 3-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the C plate retarder such that the thickness would be between 20 and 200 microns. As taught by Clerc, a thickness within the proposed range falls within conventional useful ranges for C plates having an analogous function. One would have been

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motivated to construct a C plate having a thickness within the proposed range in order to achieve a particular viewing angle characteristic having an expected result as taught by Koch and Clerc.

Regarding claim 10, Koch discloses the O plate as having a linear or crosslinked polymerized liquid crystalline material with a tilted or splayed structure (Column 11 lines 9-31, Column 13 lines 8-20, Column 14 lines 48-57, Column 15 lines 56-67, Column 17 lines 12-28).

Regarding claim 14, Koch discloses the device as a TN liquid crystal display (Column 12 lines 3-5).

Claims 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch in view of Clerc and in further view of Winker et al. (U.S. Patent No. 5,557,434 "Winker").

Regarding claim 6, Koch as modified by Clerc fails to explicitly disclose the thickness of the O plate. Winker, however, teaches example useful ranges of the thickness of an O plate as between 0.4 microns and 1.5 microns (Column 6 lines 3-6)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the O plate retarder such that the thickness would be between 0.1 and 10 microns. As taught by Winker, a thickness within the proposed range falls within conventional useful ranges for O plates having an analogous function. One would have been motivated to construct an O plate having a thickness within the proposed range in order to achieve a particular viewing angle characteristic having an expected result as taught by Koch and Winker.

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Regarding claim 7, Koch as modified by Clerc fails to explicitly disclose the optical retardation of the O plate. Winker, however, teaches example useful ranges of the retardation of an O plate as between 260 nm and 360 nm (Column 7 lines 34-37) or as between 120 nm and 170 nm (lines 42-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the O plate retarder such that the retardation would be between 6 nm and 300 nm. As taught by Winker, retardation levels within the proposed range fall within conventional useful ranges for O plates having an analogous function. One would have been motivated to construct an O plate having a retardation within the proposed range in order to achieve a particular viewing angle characteristic having an expected result as taught by Koch and Winker.

Regarding claim 9, Koch as modified by Clerc fails to explicitly disclose the optical retardation of the C plate. Winker, however, teaches example useful ranges of the retardation of a C plate as between 70 nm and 300 nm (Column 5 lines 34-36) or as between 30 nm and 100 nm (line 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the C plate retarder such that the retardation would be between 2 nm and 100 nm. As taught by Winker, retardation levels within the proposed range fall within conventional useful ranges for C plates having an analogous function. One would have been motivated to construct an C plate having a retardation within the proposed range in order to

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achieve a particular viewing angle characteristic having an expected result as taught by Koch and Winker.

***Response to Arguments***

Applicant's arguments filed on 8/7/03 with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286.

The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER